

(4) The buoyancy of any auxiliary means of buoyancy must not be counted when determining the buoyancy of the suit.

(b) *Righting.* The suit must be designed to turn the body of an unconscious person in the water from any position to one where the mouth is clear of the water in not more than five seconds, without assistance or the use of any means of auxiliary buoyancy which must be inflated by the wearer; or to allow the wearer to turn from a face down to a face up position in not more than 5 seconds, without assistance or the use of any means of auxiliary buoyancy. If an automatically inflated means of auxiliary buoyancy is used to meet this paragraph, the inflation mechanism must meet the requirements for commercial hybrid PFDs in §160.077-15(c) of this chapter, and the tests required under §160.077-21(c)(3) of this chapter. Auxiliary buoyancy, if fitted and/or inflated, must not interfere with righting.

(c) *Thermal protection.* The suit must be designed to protect against loss of body heat as follows:

(1) The thermal conductivity of the suit material when submerged 1 m (39 in.) in water must be less than or equal to that of a control sample of 4.75 mm ($\frac{3}{16}$ in.) thick, closed-cell neoprene foam. The control sample of foam must have a thermal conductivity of not more than 0.055 watt/meter-°K (0.38 Btu-in./hr.-sq.ft.-°F).

(2) The suit must provide the wearer with sufficient thermal insulation, following one jump into the water from a height of 4.5 m, to ensure that the wearer's body core temperature does not fall more than 2 °C (3.6 °F) after a period of 6 hours immersion in calm circulating water at a temperature of between 0 °C (32 °F) and 2 °C (35.6 °F).

(d) *Donning time.* Each suit must be designed so that a person can don the suit correctly within two minutes after reading the donning and use instructions described in §160.171-15(a).

(e) *Vision.* Each suit must be designed to allow unrestricted vision throughout an arc of 60° to either side of the wearer's straight-ahead line of sight when the wearer's head is turned to any angle between 30° to the right and 30° to the left. Each suit must be de-

signed to allow a standing wearer to move head and eyes up and down far enough to see both feet and a spot directly overhead.

(f) *Water penetration.* An immersion suit must be designed to prevent undue ingress of water into the suit following a period of flotation in calm water of one hour.

(g) *Splash protection.* Each suit must have a means to prevent water spray from directly entering the wearer's mouth.

(h) *Storage temperature.* Each suit must be designed so that it will not be damaged by storage in its storage case at any temperature between -30 °C (-22 °F) and +65 °C (149 °F).

(i) *Flame exposure.* Each suit must be designed to prevent sustained burning or continued melting after it is totally enveloped in a fire for a period of 2 seconds.

(j) *Oil resistance.* Each immersion suit must be designed to be useable after a 24 hour exposure to diesel oil.

§ 160.171-13 Storage case.

(a) Each suit must have a storage case made of vinyl coated cloth or material that provides an equivalent measure of protection to the suit.

(b) Each storage case must be designed so that it is still useable after two seconds contact with a gasoline fire.

§ 160.171-15 Instructions.

(a) Each suit must have instructions for its donning and use in an emergency. The instructions must be in English and must not exceed 50 words. Illustrations must be used in addition to the words. These instructions must be on the exterior of the storage case or printed on a waterproof card attached to the storage case or to the suit.

(b) If the suit has an inflatable auxiliary means of buoyancy, separate instructions covering the use of the inflation valve must be provided on the suit near the valve or on a waterproof card attached near the valve.

(c) Instructions for donning and use of the suit in an emergency must also be available in a format suitable for mounting on a bulkhead of a vessel. This placard must be in English, must